

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/28/2009 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 4, 6, 11 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, it is not clear what compounds are represented by "lipophilic additives". Although the meaning of lipophilic is well understood and includes a wide range of compounds that fit the bill, it is not clear what compounds applicant intends by these terms as part of his property and what compounds as lipophilic additives serve as fish feed. The specification fails to describe any lipophilic additive.

In claim 6, "water-soluble nutrients and/or agents" is indeterminate in scope.

What do these terms stand for? The specification does not provide any more than the claims.

In claim 11, "protein-foam shell" is unclear. When this is read in light of the specification, no clarification is forthcoming because these terms are nor described. For examination purposes only, a protein foam is being read as a proteinaceous food that may have expanded upon extrusion, even though this is not supported by prior art or by the specification.

Claim 24 lacks proper antecedent basis. This claim depends from claim 1, a product claim with no process steps. Yet, this claim recites "further processing" and "extruded mass". It is not clear how these terms relate to the product as recited. Is the feed an extruded mass which is further processed. Note that this concept is not supported in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-12, 14, 16, 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 8280333 in view of Simelunas (US Patent 4528900) and Rossen

et al. (US Patent 3851084) taken with Matthews et al. (US Patent 5928705), Hand et al. (US Patent 5431927), Axelrod (US Patent 5128153) and Blanchard et al. (US Patent 5143740) and further in view of Kim (US Patent 5773051) and DE 3212406.

Applicant claims a fish feed with two contiguous feed layers in the form of a core and a concentric layer around the core, of two different compositions, specifically, two different fat contents (instant claim 1) in single units having a disc shape.

JP 8280333 describes a pellet as shown in Fig. 2 wherein the pellet has two different compositions, compositions that include vitamins, lipid, coloring matter, etc., in a dual structure as described in ¶ [0009] to [0010]. The patent describes obtaining an expanded pellet, meeting claim 11, since the patent also contains fish meal (¶ [0003]). The patent obtains a dual "structure" pellet (¶[0010]) by using a biaxial double nozzleled extruder (i.e. co-extruded). The patent does not describe the product in the same terms as claimed herein or that the composition has different fat content, but clearly contains oil and/or fat.

When materials are co-extruded, it was known in the art that co-extrusion enables forming a core and outer compositions of different tastes, colors, appearances, textures, consistencies. See Simelunas at col. 1, lines 11-22 and claim 1. The coextruded strand is suitably cut into pieces. Rossen et al. teach a method of producing laminated food products wherein a plurality of dissimilar homogeneous doughs is coextruded. The patent states at col. 1, lines 20+ that the snack product is prepared by laminating layers of differing doughs to produce the resulting laminate, and the patent goes on to state that: "It has been proposed that the individual layers may have

different flavors, may have different textures, may be formed of substantially different materials, or may be different colors." The patent shows that the different doughs could have different viscosities also. Further at col. 10, lines 13-16, the patent teaches that the dissimilar doughs are then extruded and further processed such as being flaked with flaking rolls (see also col. 3, lines 27-28 and claims 1 and 2). At col. 4, lines 53+, patentees describe extruding the materials so that a solid concentric extrudate is formed using a co-extrusion method wherein the product such as in Fig. 23 is obtained. A cylindrical center of one material and a layer of a second material around it is shown. Matthews et al. teach a proteinaceous material as core and one or more contiguous co-extruded fat layer, wholly or partially around the core (see col. 3, lines 1-5). Therefore, these patents collectively teach that co-extrusion enables obtaining a dual structure pellet that combines dissimilar textures, compositions, consistencies, viscosities, colors, tastes, etc.; that co-extrusion enables production of a core and a layer of different composition wholly or partially around the core (Rossen and Matthews), compositions such as a protein core with a contiguous fat layer around it; that co-extrusion produces strands that can be suitably cut as desired to form pellets and/or processed as flakes by roller mills to the desired thickness. Based on these disclosures, it would have been obvious to use different compositions based on different fat contents.

With regard to disc-shaped pellets, it was already known to cut extruded strands into disc-shaped pellets. In this regard, see Hand et al. also related to feed products at col. 8, lines 15-17. ("Product rate through the die was 980 pounds per hour. The die issued the extrudate in the form of a strand 0.75 inch in diameter. The strand product

swelled upon issuing from the die due to moisture in the extrudate flashing to steam. The strand was cut into 0.50 inch thick disc-shaped pellets."). Therefore, to cut circular shaped strands into disc-shaped pellets would have required no patentable skill.

Since the JP patent applied teaches co-extruding a fish feed composition with a core and a concentric circle around it (Fig. 2), it would have been obvious to use different compositions with varying levels of fat as shown by Matthews, and to extrude the strands and suitably cut the strands to disc-shaped pellets. Based on Matthews, it would also have been obvious to the person of ordinary skill that such co-extrusion as shown by the JP patent would have resulted in two contiguous layers, as a core and a concentric layer around it as shown in Fig. 2. Note that the specification achieves obtaining contiguous layers of "at least two feed mixtures of different compositions" by no more than co-extrusion of two or more compositions. (See ¶[0021] in applicant's published application). Since the JP patent already teaches fat and vitamins, and it is known that vitamins are water-soluble or fat-soluble, then claims 4 and 6 are rendered obvious to the extent described in the specification to describe them.

With regard to claim 7, Axelrod renders obvious the concept that varying density varies with the differences in layers having varying food ingredients, while the arrangement of the fish feed components being at various levels of the pellet itself and fat being on the surface layer suggests that it would have been obvious to change this and have the protein on the surface and the fat on the inside, this being a matter of choice depending on whether the Axelrod product is required to float or sink and to the degree that the pellet should float or sink. See claim 1. Note that Axelrod is also drawn

to a fish food pellet that has several layers forming concentric bodies. Axelrod also describes a plurality of oil or fat globules being embedded in the different layers of fish food. See col. 1, and col. 2, lines 25-50. Further, adjusting floating or sinking and adjusting density, method steps in product claims 7-8, are rendered obvious by Axelrod.

With regard to claims 14 & 19, wherein the cross section of the extrudate is increased during the rolling out, one of ordinary skill in the art would have reasonably expected that when the pellet in the Rossen patent is subjected to roller mills, then it would have been flattened out to a flake and it would be inherent that the cross section upon flattening out would be larger. However, Blanchard et al. reinforces this position by showing that the material is stretched by the flaking process. Blanchard is drawn to extrusion and roller mill processes to flake the extrudate. See the entire patent.

With regard to the protein-foam shell, to the extent as best understood from the specification, Rossen shows such a feature at Fig. 9 which illustrates puffing of the exterior of a co-extruded product.

With regard to claims 12 and 20-23, the JP patent discloses incorporating vitamins in the coextruded product. Additionally, Kim teaches that vitamins in fish feed and flakes having a diameter of 1-10 mm and thicknesses of 0.5 mm. However, DE '406 teaches a film thickness of .002 to .02 mm thickness using pressure rollers to prepare fish food. Therefore, it appears that the thickness of a flake is a determinable parameter by controlling the pressure used for the roller mill and would have been obvious to the artisan. With regard to the incorporation of antibiotics, antioxidants and

immune-stimulating agents, it is well known that many vitamins have inherent antioxidant properties, such as vitamin C and E, and further, vitamin E has immune-stimulating properties as well, also well known. The incorporation of vitamins shown by Kim and the JP patent therefore, renders this aspect obvious.

Response to Arguments

Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection. However, with regard to applicant's reference to products from amazon.com and comments from consumers, and reference to a "commercial embodiment that falls within the scope of the claimed feed", it is not clear which embodiment is being referred to and what falls within the scope of the claimed feed. It is well established that any objective evidence should be properly submitted for consideration and should be commensurate in scope with the claimed invention. Given the strength of the references applied, i.e. references showing co-extrusion of different compositions of fish food, references showing pellets with concentric layers with varying densities and varying fat levels, references showing that co-extrusion produces contiguous layers of different food compositions (i.e to the same extent of the specification disclosed herein), references showing extrudates being subjected to roller mills to obtain flakes, and therefore the strength of the obviousness conclusion, applicant's pointing to sales of the website at Amazon.com does not persuade patentability. Also, applicant's discussion of the references has been

considered, and it is being held that "Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references." In re Merck & Co., 800 F.2d 1091, 1097 (Fed. Cir. 1986). Applicant also states that Rossen's products can only be obtained by extruding mixtures **not having a markedly different fat content.** This statement is unsubstantiated. Rossen teaches different compositions being co-extruded. Rossen points out co-extrusion of these different *compositions*. Rossen points out the same structure in the drawings. This is no more and no less than what applicant has disclosed, in terms of obtaining his product by co-extruding varying compositions, and has claimed. See line 2 of instant claim 1.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Co-extrusion of food products with different food compositions, including varying macronutrients was well-known in the art at the time the invention was made and was used to provide expedient methods of obtaining different textures, viscosities, colors and other properties to the food product. .

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Sayala, whose telephone number is (571) 272-1405. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1781

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/C. SAYALA/
Primary Examiner, Art Unit 1794**